

SUSTAINABLE INNOVATIONS IN THE LIGHT INDUSTRY: EXPLORING GREEN TECHNOLOGY SOLUTIONS

Green technology is the direction of innovation in the light industry. Among the industries that should provide the population with environmentally friendly clothing and footwear, a special role belongs to the light industry. Green technology in the light industry not only benefits the environment but also holds immense potential for improving human health. By adopting sustainable practices and utilizing eco-friendly technologies, the light industry can contribute to creating healthier workspaces and communities.

In the context of "green technology", comfortable, convenient, environmentally friendly clothing and footwear ensure the safety of life and health. Innovative technology in the light industry, which, in my opinion, can be classified as green technology and which can activate a number of factors for increasing the competitiveness of not only the light industry but Ukraine as a whole, is associated with the restoration of the linen complex.

There are multilayer textile compositions that can be considered to a certain extent as a product with high technical and operational properties, new functions, added qualities, environmental friendliness, the development of which requires the use of new materials (structural and functional) based on new technological processes, the implementation of which requires research work. The areas of application of multilayer composite textile materials are endless: for example, anti-decubitus bedding, and bedding for bedridden patients. There are also textiles made from bast fibers that are environmentally friendly and have health-promoting properties that provide comfort. This is what will be in demand in years to come and is the criterion of quality. These products may be labeled as "natural". Thanks to research and new developments, bast fibrous plants are used in a wide range of biocomposite materials. With lignocellulose, they can be combined with artificial or natural polymers and provide a wide range of composite applications in textiles (including geotextiles and nonwovens). In the future, all biocomposites are assumed to be completely biodegradable and designed to be recycled.

With a focus on minimizing environmental impact while maximizing efficiency and productivity, these innovations hold immense promise for the industry's future. What is

remarkable and promising is that by examining various green technologies, such as energy-efficient lighting systems, eco-friendly manufacturing processes, and renewable energy sources, more and more researchers are emphasizing the transformative power of sustainable practices. Through their explorations, they hope to inspire further research and adoption of green technology solutions in the light industry, paving the way towards a more sustainable and prosperous future.